REMARKS

This is in full and timely response to the Final Office Action dated January 11, 2010.

Claims 1 and 4-10 are currently pending in this application, with claims 1 and 6 being independent. *No new matter has been added.*

Reexamination in light of the following remarks is respectfully requested.

Claim rejections - 35 U.S.C. §101

i. Claims 4 and 5 are dependent upon claim 1.

While not conceding the propriety of this rejection and in order to advance the prosecution of the present application, claim 1 has been amended.

ii. Claims 7-10 are dependent upon claim 6.

The Commissioner now states "that *computer programs embodied in a tangible medium*, such as floppy diskettes, *are patentable subject matter under 35 U.S.C. Section 101* and must be examined under 35 U.S.C. Sections 102 and 103." *In re Beauregard,* 35 USPQ2d 1383, 1384 (Fed. Cir. 1995).

Claim 6 is drawn to a computer program product for optimizing character string placing, the *computer program product stored on a computer readable medium* and adapted to perform operations comprising:

> performing a first horizontal placement or a first tilting placement on all demarcated regions;

performing a pull-out placement on each demarcated region in which the first

horizontal placement or the first tilting placement cannot be performed, assuming

that the character string placed in the first horizontal placement or the first tilting

placement has not been placed;

performing a second horizontal placement or a second tilting placement to place the

character string placed in the first horizontal placement or the first tilting placement,

and, when the placement cannot be performed because of the character string placed

through the pull-out placement, nullifying the character string placed through the

pull-out placement hindering the placement, thereby placing the character string

through the second horizontal placement or the second tilting placement.

Withdrawal of this rejection is respectfully requested.

Claim rejections - 35 U.S.C. §103

**iii. Page 15 of the Office Action includes a rejection of claims 1 and 4-5 under 35 U.S.C. §103
as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further
view of U.S. Patent No. 6,868,524 (Fushiki) and U.S. Patent Application Publication No.
2004/001628 (Ozawa).**

A. Claims 4 and 5 are dependent upon claim 1.

Claim 1 is drawn to an apparatus for optimizing character string placing, comprising:

means for drawing prospective guide lines (10) as virtual horizontal lines arranged in

parallel at regular intervals in a demarcated region (20);

means for selecting, from among the prospective guide lines (10), specific prospective guide lines (10_1-10_7) that are arranged in parallel and are longer than a longest horizontal segment (30) of an area of a character string;

means for specifying one (10_4) of the specific prospective guide lines (10_1-10_7) that is located at the center of an arrangement of the specific guide lines (10_1-10_7) arranged in parallel in a vertical direction; and

means for placing the character string along said one (10_4) of the specific prospective guide lines (10_1-10_7).

The numerals shown within the Annotated Figures are consistent with the parenthetical numeration shown within claim 1.
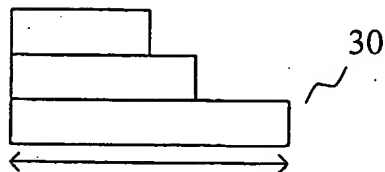
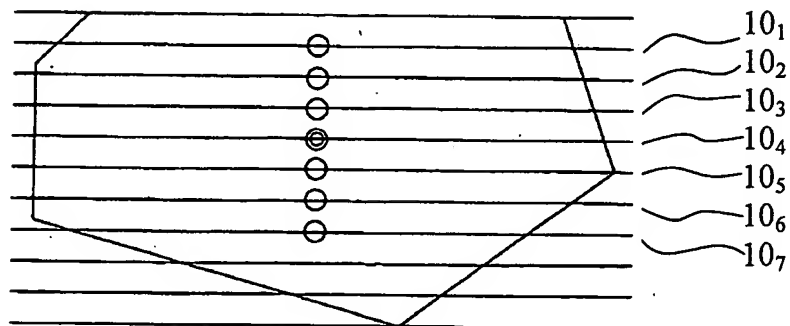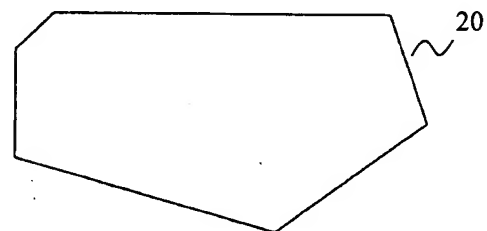Fig. 1A   Fig. 1B

30

20

Fig. 1C

10_1
10_2
10_3
10_4
10_5
10_6
10_7

1. Japanese Application No. 08-167039 (Kobari)

a) In Kobari, there is no means for drawing prospective guide lines as virtual horizontal lines arranged in parallel at regular intervals in a demarcated region.

In Fig. 3 of Kobari, two horizontal prospective guide lines for each circumscribed quadrangle 6 are arranged in line, and are not arranged in parallel at regular intervals. Further, two horizontal prospective guide lines for each circumscribed quadrangle 5 are arranged in line, and are not arranged in parallel at regular intervals.

b) In Kobari, there is no means for selecting, from among the prospective guide lines, specific prospective guide lines that are arranged in parallel and are longer than a longest horizontal segment of an area of a character string.

In Fig. 3 of Kobari, only two guide lines arranged in line are illustrated for one circumscribed quadrangle 6, and only two guide lines arranged in line are illustrated for one circumscribed quadrangle 5.

Kobari shows only one area of character string 6 in Fig. 3 and fails to teach or suggest specific prospective guide lines that are arranged in parallel and are longer than a longest horizontal segment of the area of the character string.

c) In Kobari, there is no means for means for specifying one of the specific prospective guide lines that is located at the center of an arrangement of the specific guide lines arranged in parallel in a vertical direction.

Kobari teaches the center of the polygon 4 and the center of the polygon 5, and teaches the longest side of the polygon 4.

There is no description in terms of guide line corresponding to the specific prospective guide line 10_4 of our invention.

It should be noted that the longest line of the demarcated region 20 does not correspond to the guide line 10_4 but corresponds to the adjacent guide line 10_5 that is located at the center in the vertical direction.

According to Kobari, the guide line 10_5 is used to place the character string.

> **d) In Kobari, there is no means for placing the character string along one of the specific prospective guide lines.**

It is apparent that there is no means for placing the character string along said one of the specific perspective guide lines in Kobari.

2. U.S. Patent No. 6,868,524 (Fushiki)

> **a) The skilled artisan would not have referred to Fushiki for the features that are admittedly absent from within Kobari.**

Page 18 of the Office Action *readily admits* that Kobari does not expressly disclose the prospective guide lines.

Instead, page 18 of the Office Action asserts that:

> However, Fushiki et al. discloses producing scan lines to determine string placement (Fig. 4a). It would have been obvious to one of ordinary skill to use the scan lines of Fushiki et al. of which the length determiner of Kobari et al. with the motivation of finding the best place to a label.

However, Kobari teaches that the character string is originally placed at the center of the quadrangle 6.

Kobari further teaches that the character string may be moved on the perpendicular bisector if the quadrangle 6 is included in the polygon 4.

Even if Fushiki had have been applied to the movement of the character string on the perpendicular bisector, at least the above mentioned features (2) and (3) of our invention would not have been made.

b) In Fushiki, there is no means for placing the character string along one of the specific prospective guide lines.

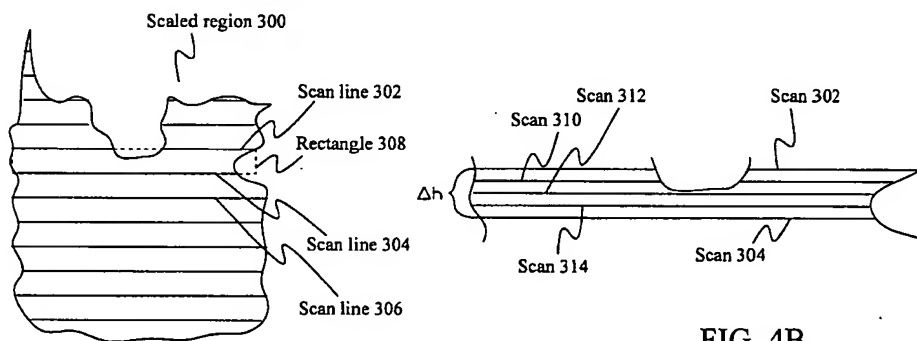Figure 4 of Fushiki is provided hereinbelow.

FIG. 4A

FIG. 4B

Here, the paragraph beginning at column 5, line 1, of Fushiki arguably discloses that:

The transform of equation 1 is performed to set the scan interval used to generate a set of rectangles within the region. Specifically, when the GetRegionData API is used to build the text boxes, the API scans the region passed to it at fixed intervals along the y-coordinate. As such, if the height of the region is scaled down, the relative space between scans increases. Thus, by dividing the region's y-coordinate

by the height of the text, Δh, equation 1 causes the scans to occur at locations along the region that were separated by a distance of Δh before the scaling transform was performed. Examples of the scan lines that would be produced along a scaled down region 300 are shown as **_scan lines 302, 304, and 306_** in **_FIG. 4A_**. Note that these scan lines represent the scans that would be produced if the y-coordinate of the region were only divided by Δh. The effects of multiplying the y-coordinate by n are discussed below.

The paragraph beginning at column 5, line 25, of Fushiki arguably discloses that:

> The value Δh is selected because used alone it causes GetRegionData to return a set of rectangles that can accommodate the text to be written to the region. For example, if a region were passed to GetRegionData after being scaled down by Δh, GetRegionData would return a set of rectangles like rectangle 308 of **_FIG. 4A_**. Because of the scaling, rectangle 308 has a height equal to the text height, Δh, and can be used directly to write text within the region.

The paragraph beginning at column 5, line 25, of Fushiki arguably discloses that:

> Under many embodiments of the present invention, the granularity factor, n, is added to the scaling function so that multiple scans are performed for each text box. Examples of these additional scans are shown as scans 310, 312, and 314 of FIG. 4B, which occur between **_scans 302 and 304_** of **_FIG. 4A_**. As discussed further below, these additional scans improve the accuracy of the text boxes and reduce the chances that part of the region's perimeter will intersect text written within the region.

However, Fushiki **_fails_** to disclose, teach, or suggest a placement to place a character string along a prospective guide line that is located at the center of prospective guide lines <u>that are longer than the longest horizontal segment of the area of the character string</u>.
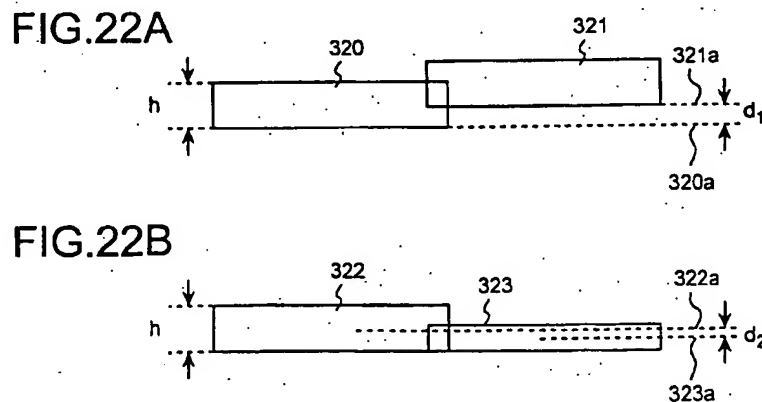
3. U.S. Patent Application Publication No. 2004/001628 (Ozawa)

a) In Ozawa, there is no means for placing the character string along one of the specific prospective guide lines.

Page 20 of the Office Action asserts that:

However, Ozawa discloses a computer program of placing character string aligned with horizontal lines including the centerline and specifying a centerline so as to place the character string along the centerline (Ozawa Figs. 22A-22B as disclosing specifying the centerlines of the bounding boxes and Fig. 26A-26B as disclosing placing a character string in a bounding box). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Ozawa's specifying a centerline of a bounding box and placing a character string along the centerline within the bounding box wherein each bounding box further comprises at least two horizontal guide lines.

Figures 22A and 22B of Ozawa are provided hereinbelow.

FIG.22A

FIG.22B

However, Ozawa _fails_ to disclose, teach, or suggest the specific prospective guide lines.

As a consequence, Ozawa _fails_ to disclose, teach, or suggest a means for placing the character string along one of the specific prospective guide lines.

iv. Page 20 of the Office Action includes a rejection of claim 5 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki), U.S. Patent Application Publication No. 2004/001628 (Ozawa), and U.S. Patent No. 5,724,072 (Freeman).

A. Claim 5

Claim 5 is drawn to the apparatus of claim 1, further comprising:

> means for centering placement to arrange the placed character string in such a manner that the distances between the demarcated region segments that demarcate the demarcated region and dots on character string region segments that demarcate the character string region are made uniform.

1. Kobari, Fushiki, and Ozawa

The arguments presented hereinabove with respect to Kobari, Fushiki, and Ozawa are incorporated herein by reference.

2. U.S. Patent No. 5,724,072 (Freeman)

a) In Freeman, there is no means for placing the character string along one of the specific prospective guide lines.

The paragraph beginning at column 17, line 9, of Freeman arguably discloses that:

> A distance transform is the transformation of a raster representation of a region. Preferably, the distance transform is calculated in a distance transform skeleton array

or "DTS array." After computing the distance transform, the value of each cell in the transformed region is the distance in the x and y directions; in number of cells, from the cell to the nearest region boundary. The minimum mount of space around any cell in the region is known, and hence the size of the region at that cell is also known. Since the distance transform is a function of the location of a cell given in terms of x and y, the distance transform can be plotted in the z-direction. The value of distance transform is then referred to in terms of a "height" above the x-y plane of the region. *FIG. 6a shows a three-dimensional view of the distance transform 60 of a region 62, with the distance transform represented as a height or distance above the x-y plane.* FIG. 6b shows a numeric representation of a distance transform 64 of a region 66.

The paragraph beginning at column 17, line 58, of Freeman arguably discloses that:

Whereas the skeleton is a series of cells in an array as shown in FIG. 8 the skeleton graph 90, shown in FIG. 9 is a directed graph consisting of *vertices 92 (labeled as 1, 2, 3 and 4), edges 94, and points 96*. A point is one cell in the skeleton of the region. An edge consists of all points on the skeleton which are adjacent to each other in the eight-connected sense, and which have only two neighbors. Edges begin and end at vertices; therefore, vertices may either have one neighbor or three or more neighbors. Vertices which have three or more neighbors, such as vertex 2, are junctions in the skeleton where three or more edges intersect.

However, Freeman *fails* to disclose, teach, or suggest a placement to place a character string along a prospective guide line that is located at the center of prospective guide lines that are longer than the longest horizontal segment of the area of the character string.

b) In Freeman, there is no means for centering placement.

Page 21 of the Office Action contends that column 8, lines 21-40 of Freeman discloses placing the label into the geographic center.

In response, column 8, lines 21-40 of Freeman discloses various "BRIEF DESCRIPTION OF THE DRAWINGS" while failing to disclose, teach, or suggest the placement of the label into the geographic center.

v. Page 22 of the Office Action includes a rejection of claims 6-7 and 10 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki) and U.S. Patent No. 5,724,072 (Freeman).

A. Claims 7 and 10 are dependent upon claim 6.

Claim 6 is drawn to a computer program product for optimizing character string placing, the computer program product stored on a computer readable medium and adapted to perform operations comprising:

> performing a first horizontal placement or a first tilting placement on all demarcated regions;

> performing a pull-out placement on each demarcated region in which the first horizontal placement or the first tilting placement cannot be performed, assuming that the character string placed in the first horizontal placement or the first tilting placement has not been placed;

> performing a second horizontal placement or a second tilting placement to place the character string placed in the first horizontal placement or the first tilting placement, and, when the placement cannot be performed because of the character string placed through the pull-out placement, nullifying the character string placed through the pull-out placement hindering the placement, thereby placing the character string through the second horizontal placement or the second tilting placement.

1. Kobari, Fushiki, and Freeman

The arguments presented hereinabove with respect to Kobari, Fushiki, and Freeman are incorporated herein by reference.

vi. Page 20 of the Office Action includes a rejection of claims 8-9 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki) and U.S. Patent No. 5,724,072 (Freeman), and Japanese Application No. 09-185696 (Yoshimura).

A. Claims 8-9 are dependent upon claim 6.

Claim 8 is drawn to the computer program product of claim 6, wherein the operations function comprises:

> a replacing placement, after the second horizontal placement or the second tilting placement, to place alternative display objects such as characters, other character strings, symbols, or graphics, instead of the character string that cannot be placed in the first horizontal placement or the first tilting placement, the pull-out placement, or second horizontal placement or the second tilting placement.

Claim 9 is drawn to the computer program product of claim 8, wherein the operations function comprises:

> the pull-out placement again prior to the replacing placement.

1. Kobari, Fushiki, and Freeman

The arguments presented hereinabove with respect to Kobari, Fushiki, and Freeman are incorporated herein by reference.

2. Japanese Application No. 09-185696 (Yoshimura)

Page 28 of the Office Action contends that Yoshimura et al. discloses replacement placement [0118].

The machine translation of Yoshimura in paragraph [0118] arguably discloses that:

> [0118](c) Use a character code and a registration dictionary as input data in string conversion processing string conversion processing. In this processing, it is judged whether the character string applicable to the keyword of a registration dictionary is contained in a character code. If there is a character string contained, the applicable character string part of a character code will be changed into the abbreviation of a registration dictionary, and the character code after conversion will be outputted.

However, like Kobari, Fushiki, and Freeman, Yoshimura *fails* to disclose, teach, or suggest a placement to place a character string along a prospective guide line that is located at the center of prospective guide lines that are longer than the longest horizontal segment of the area of the character string.

Withdrawal of these rejections and allowance of the claims is respectfully requested.

Official Notice

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. §1.104(d)(2), M.P.E.P. §2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

Fees- general authorization

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.
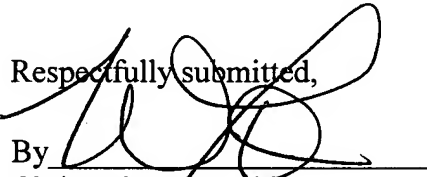
Conclusion

This response is believed to be a complete response to the Office Action. Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance. Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

Dated: May 10, 2010

Respectfully submitted,

By _____

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